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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,054	11/14/2001	Aref Ben Ahmed Jallouli	ESSR:058US/MBW	4850

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EXAMINER

SERGEANT, RABON A

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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03/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	09/992,054		JALLOULI ET AL.	
	Examiner		Art Unit	
	Rabon Sergeant		1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-24, 28-40, 42, 43 and 47-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-24, 29-35, 38, 40, 42, 43, 47 and 49 is/are rejected.
- 7) ☒ Claim(s) 28, 36, 37, 39 and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 18, 2008 has been entered.

2. Claim 49 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within line 1 of claim 49, the language, "the at least one at least one ...", appears to be improper. Clarification is required.

3. Claims 22-24, 29-35, 38, 40, 42, 43, 47, and 49 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the use of polysulfide containing (α,ω)-dithiol prepolymers according to those set forth within pages 4 and 5 of the specification and the examples within pages 10-19, does not reasonably provide enablement for the use of virtually any polysulfide containing (α,ω)-diol prepolymers or polysulfide containing (α,ω)-dithiol prepolymers. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Applicants have provided no guidance for the production or use of disulfide-free polysulfide (α,ω)-diol prepolymers of any structure or derivation or for the production or use of disulfide-free (α,ω)-dithiol prepolymers other than those set forth within pages 4, 5, and 10-19 of the specification, and the position is taken that applicants' claims should be limited to the

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invention for which they have provided enablement. Consonant with the requirements set forth within *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988) (MPEP 2164.01), the relevant undue experimentation factors have been analyzed as follows:

The Breadth of the Claims

Applicants' claims have been considered, and they are drawn to a transparent, non-elastomeric, polythiourethane/urea material comprising the reaction product of at least one disulfide-free aromatic primary diamine and at least one (α,ω)-diiso(thio)cyanate polysulfide prepolymer, wherein the diiso(thio)cyanate prepolymer is derived from a polysulfide containing (α,ω)-diol prepolymer or a polysulfide containing (α,ω)-dithiol prepolymer. Accordingly, the claims allow for the use of either a diol prepolymer or a dithiol prepolymer of unclaimed structure or derivation.

The Nature of the Invention

The invention is drawn to the production of transparent, non-elastomeric polythiourethane/urea having improved properties, such as improved refractive index, wherein the polythiourethane/urea is derived from (α,ω)-diol prepolymers or specifically defined (α,ω)-dithiol prepolymers. It is noted that no disclosure is provided governing the production or use of the (α,ω)-diol prepolymer variant.

The State of the Prior Art

The closest known prior art is considered to be WO 01/36507 and WO 01/36508; however, these references fail to disclose disulfide-free polysulfide diol or dithiol prepolymer, wherein the term "prepolymer" has been established as requiring the contribution of more than simply a single monomeric structure to the final polymer chain. In other words, "prepolymer" as

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used within the instant invention mandates a specific meaning, wherein the features of such a prepolymer are not disclosed by the prior art. Furthermore, applicants stress at page 5, line 14 that certain prepolymers of the invention constitute a new class of polysulfides. Accordingly, it cannot be said that the prior art provides any specific guidance that would permit one to produce or utilize the full extent of (α,ω)-diol prepolymers or (α,ω)-dithiol prepolymers of the instant invention.

The Level of One of Ordinary Skill

As supported by the citation of the aforementioned prior art, the level of one of ordinary skill is such that one would readily understand how to produce a polythiourethane/urea utilizing both sulfur containing isocyanates and sulfur containing monomers; however, given the lack of disclosure or general information concerning the production and use of the prepolymers encompassed by the claims, it is expected that the level of ordinary skill in the art with respect to these distinct prepolymers is such that the skilled artisan would not be able to practice the full scope of the claims.

The Level of Predictability in the Art

Though the production of optical quality polythiourethane/ureas was known and the relationship of sulfur containing reactants to optical quality polythiourethane/ureas was also known, given that the prepolymer reactants encompassed by the claims were not known, it cannot be said that there would be a high level of predictability in producing the full scope of the claimed prepolymers or in using them to produce a polythiourethane/urea of improved optical quality.

The Amount of Direction Provided by the Inventor

Aside from disclosing the use of (α,ω)-diol prepolymers, applicants provide no guidance in the actual production or use of the diol variant. Accordingly, the applicants provide no useful instruction that would enable one to produce this class of the claimed prepolymer or polythiourethane/urea. As for the (α,ω)-dithiol prepolymers, applicants serve only to guide one how to produce the prepolymers that correspond to those set forth within pages 4, 5, and 10-19 of the specification. Accordingly, applicants fail to provide adequate guidance for the full scope of the prepolymers claimed.

The Existence of Working Examples

The specification only sets forth examples wherein the prepolymers are (α,ω)-dithiol prepolymers produced from 2-mercaptoethylsulfide and allylsulfide. Accordingly, the examples only serve to teach one how to make a limited selection of the prepolymers claimed.

The Quantity of Experimentation Needed to Make or Use the Invention

Based on the Content of the Disclosure

Since the prior art fails to teach one how to produce the (α,ω)-diol prepolymers and (α,ω)-dithiol prepolymers of the claims and utilize them within polythiourethane/ureas and since applicants have failed to teach how to produce and use any (α,ω)-diol prepolymers and (α,ω)-dithiol prepolymers other than those of pages 4, 5, and 10-19 of the specification, the position is taken that extensive experimentation would be required to make the invention as claimed.

Therefore, in view of the analysis of these factors, the position is taken that one of ordinary skill could not practice the invention as claimed without having to resort to undue experimentation.

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4. Claims 28, 36, 37, 39, and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

/Rabon Sergent/
Primary Examiner, Art Unit 1796

R. Sergent
March 17, 2008